Nanotechnology-Enabled Specifically Targeted AntiViral Medicines

"Find-Encapsulate-Destroy"

NanoViricides

Incorporated

Nanoviricides: Novel Antiviral Nanomedicines

A Customizable Platform Technology

Presented at the:

NanoManufacturing Summit 2012 and the
11th Annual NanoBusiness Conference
Nano Tx, Rx: Clinical, Business and Regulatory Perspectives Panel
September 4-6, 2012
Seaport Convention Center, Boston, MA

Presented by:

Anil R. Diwan, PhD

President & Chairman

Mobile: 203-606-9180

adiwan@nanoviricides.com

Disclosure Statement

NanoViricides, Inc. is a publicly traded company (stock symbol: **NNVC**, OTC).

This is not an offering memorandum and should not be construed as such.
It is provided as a non-confidential document for informational purposes only.

NanoViricides, Inc.(www.nanoviricides.com) is a development stage company that is creating special purpose nanomaterials for viral therapy. The Company's novel nanoviricide™ class of drug candidates are designed to specifically attack enveloped virus particles and to dismantle them. The Company is developing drugs against a number of viral diseases including H1N1 “swine flu”, H5N1 bird flu, seasonal Influenza, HIV, EKC, Herpes “cold sores” and genital Herpes, Hepatitis C, Rabies, Dengue fever, and Ebola virus, among others.

This document contains forward-looking statements that reflect the current expectation of NanoViricides, Inc. (the "Company) regarding future events. Actual events could differ materially and substantially from those projected herein and depend on a number of factors. Certain statements are “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties and other factors which are, in some cases, beyond the Company's control and which could, and likely will, materially affect actual results, levels of activity, performance or achievements. The Company assumes no obligation to publicly update or revise these forward-looking statements for any reason, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Important factors that could cause actual results to differ materially from the company's expectations include, but are not limited to, those factors that are disclosed under the heading "Risk Factors" and elsewhere in documents filed by the company from time to time with the United States Securities and Exchange Commission and other regulatory authorities. Although it is not possible to predict or identify all such factors, they may include the following: demonstration and proof of principle in pre-clinical trials that a nanoviricide is safe and effective; successful development of our product candidates; our ability to seek and obtain regulatory approvals, including with respect to the indications we are seeking; the successful commercialization of our product candidates; and market acceptance of our products.

Overview

- NanoViricides Today
- Technology
- NanoViricides® Product Pipeline
- Milestones & Future Objectives

Broad Drug Pipeline Advancing Rapidly...

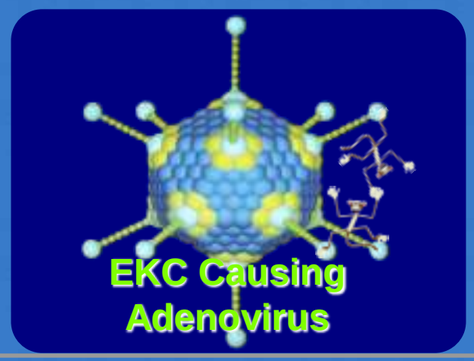
Our Current Drug Programs

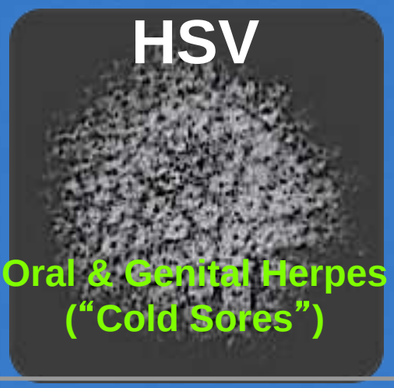
NOW ORAL!
pre-IND

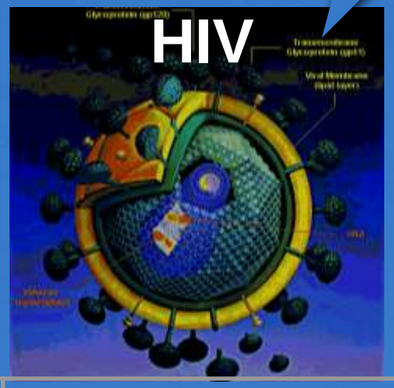
Sustained Activity
"Functional Cure?"

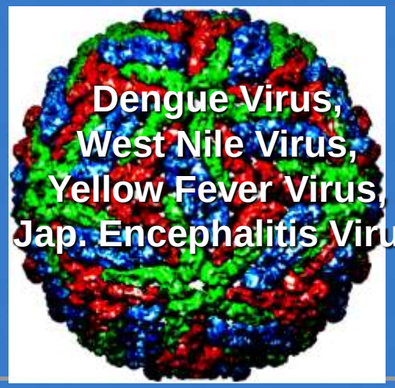
Pre-clinical Leads

Influenzas





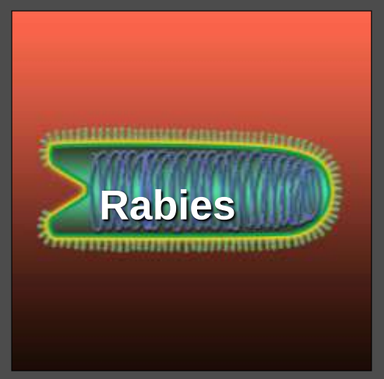


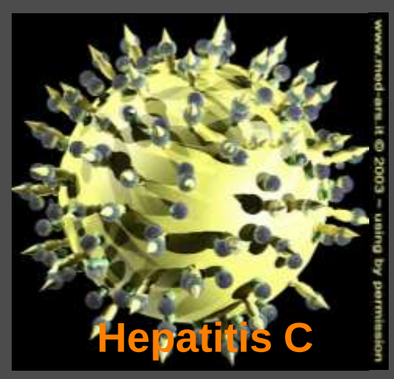


* FluCide™ one Drug for All Influenzas	* Eye Drops for All Viral Conjunctivitis/Keratitis	* Skin Cream & Gel for Oral, Genital Cold Sores	* HIVCide™ Potentially "Functional Cure"	* Dengue nanoviricide -avoid ADE Effect

Pre-IND Meeting Held with US FDA for Influenza, March 2012

Post-Discovery





Designing NanoMedicines

- WHY ☞ Imperatives of Drug Development :
  - More Effectiveness
  - Greater Safety - Minimize Side Effects
    - Off-Target Activity, On-Target Activity, Metabolic Effects, Other
  - Patient Compliance => Ideal: Treat only once ☺
- HOW ☞ Divide and Rule aka Componentize Responsibilities
  - Greater Control by Design
  - Select Route of Administration
    - Injectables, Eye Drops, Skin Creams, In situ Patches/Depots,
    - Oral ??
  - Define Time Profile of Activity
    - Sustained Release, Controlled Release, Pulse-on-Demand, etc
  - Enable Site-Specific Delivery
    - Passively - eg EPR effect, BBB effect, Lipid partitioning, etc
    - ACTIVELY : Select Cell Type/Subtype, Virus, Bacteria, Parasite, Toxin…
  - Separation of Efficacy from Time-Profile and Delivery Responsibilities

NanoViricides Technology

Unique, Novel Platform enables:

Novel Mechanism of Action
Novel Class of Drugs - First-In-Class

with extremely high efficacy levels and excellent safety

Defining A New Plateau of Antiviral Therapeutics

based on TheraCour® Platform Technology

Innovation... What is a NanoViricide®?

FIND the enemy...

Ligands

Target Virus Particle

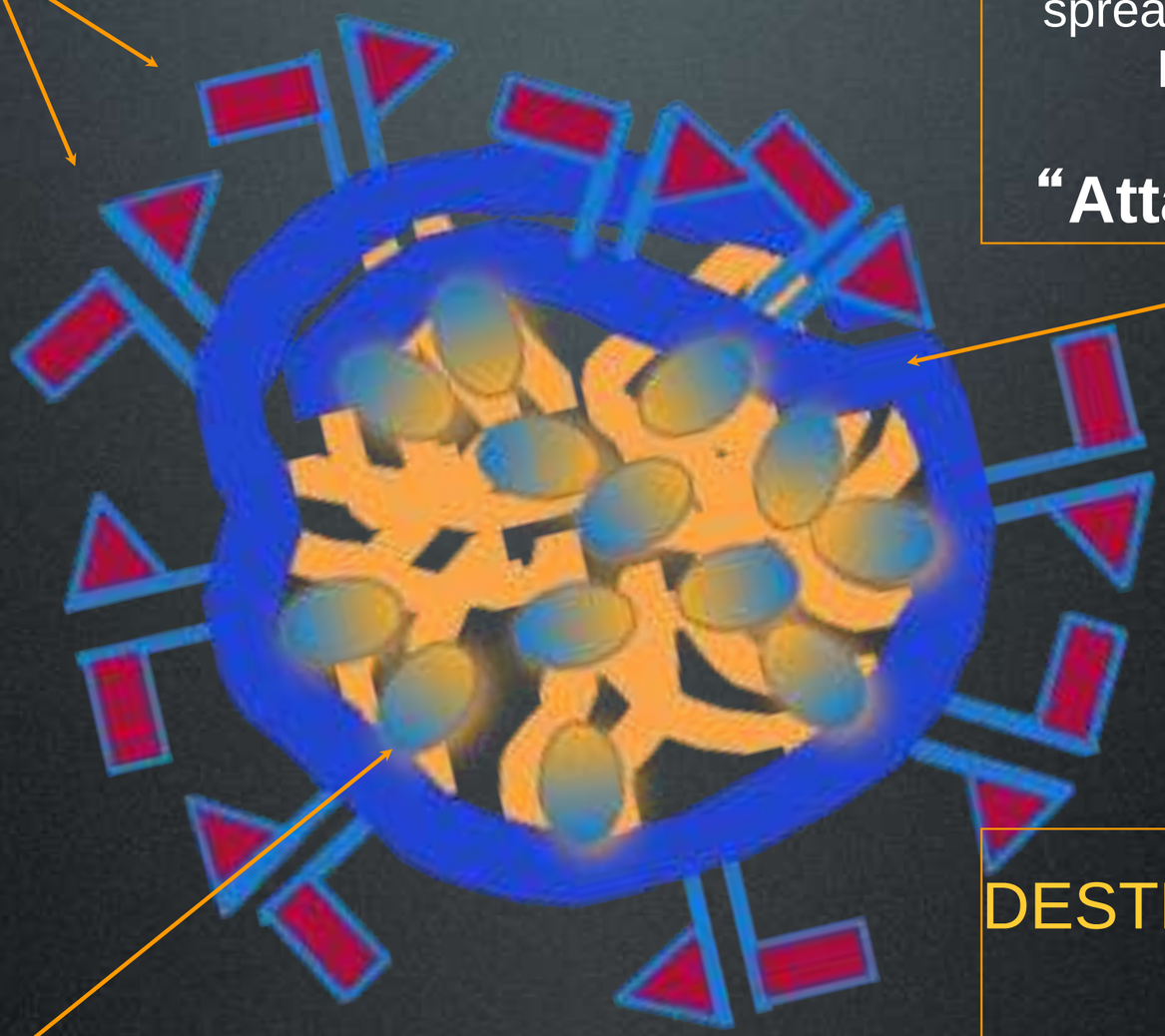
“Guided Missile”

ENCAPSULATE enemy...

“Nanomicelle”

A folded-up glob that can unfold and spread onto the virus particle after ligands bind to the virus

“Attack from all around”



API’s

Active Pharmaceuticals can be Encapsulated in the “Belly” of the nanoviricide

Future Drugs - Creating Cures?

DESTROY the enemy...

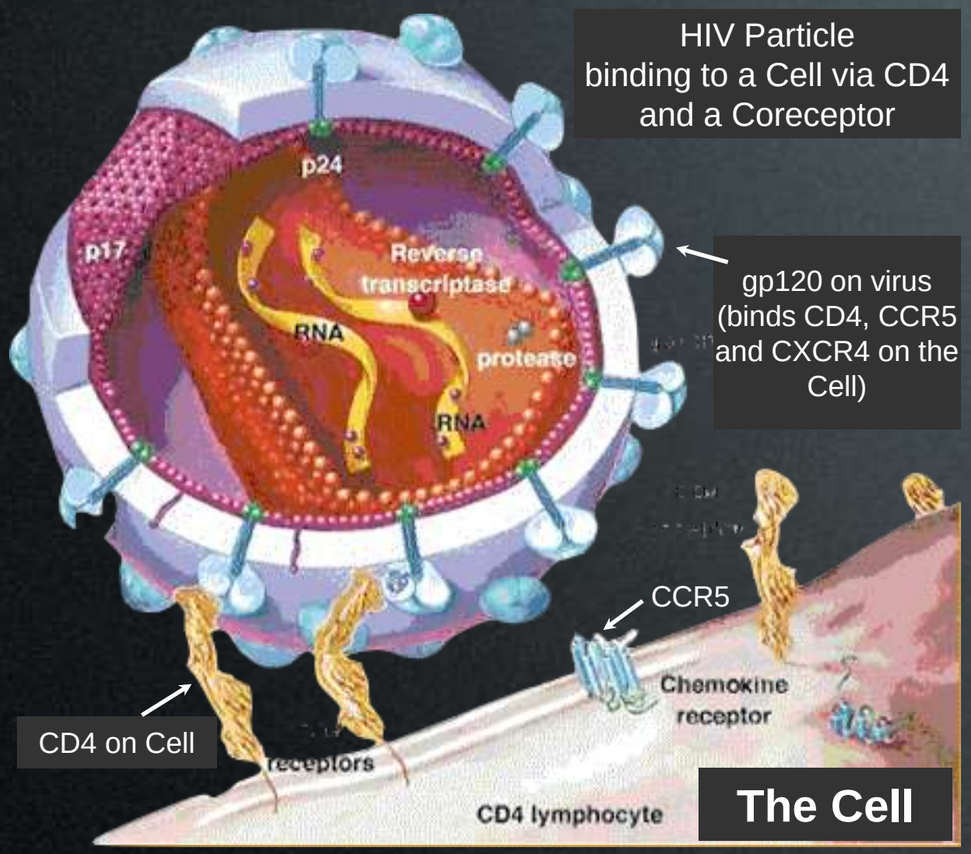
“Nanoviricide”

The virus thinks it bound to a host cell, starts its own unfolding machinery, destroying itself in the process

Tricking the Virus

A nanoviricide® is a Cell Mimic

“passive view”



HIV Particle binding to a Cell via CD4 and a Coreceptor

gp120 on virus (binds CD4, CCR5 and CXCR4 on the Cell)

CD4 “Key” that binds to HIV

CCR5 “Key” that binds to HIV

Make Ligands to Mimic the “Keys”

Artificial Cell Bio-Mimicry Technology

A nanoviricide “Looks Like” a Human Cell to the Virus

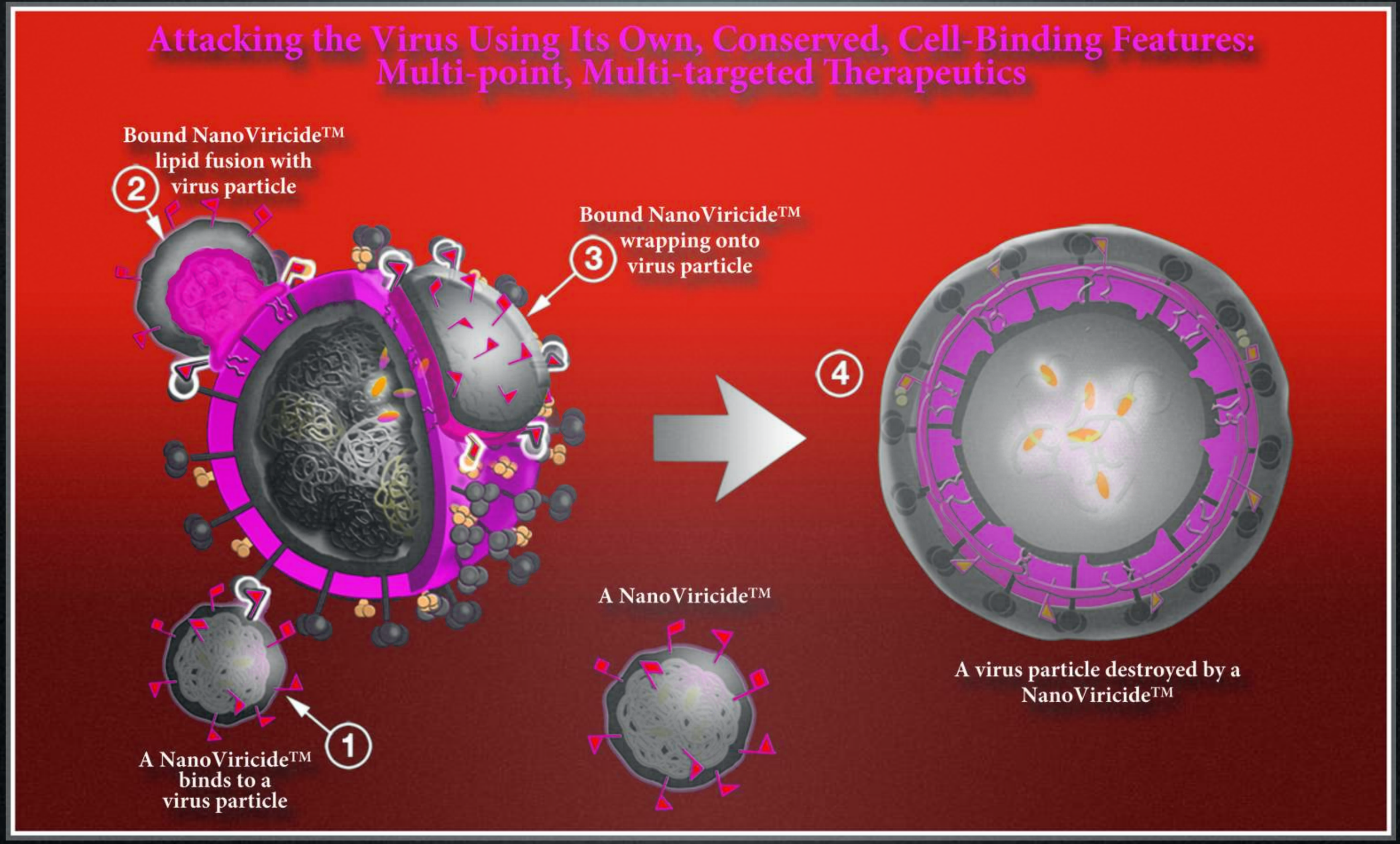
A nanoviricide is large enough for a virus particle to latch onto it.
Yet small enough to circulate readily in the body.

Rather than the virus particle entering into a nanoviricide,
a nanoviricide wraps around the virus particle and encapsulates it,
by using the virus particle’s very same ability to enter a cell.

A NanoViricide® Attacking a Virus Particle:

Unique, Novel, Nanotech Design

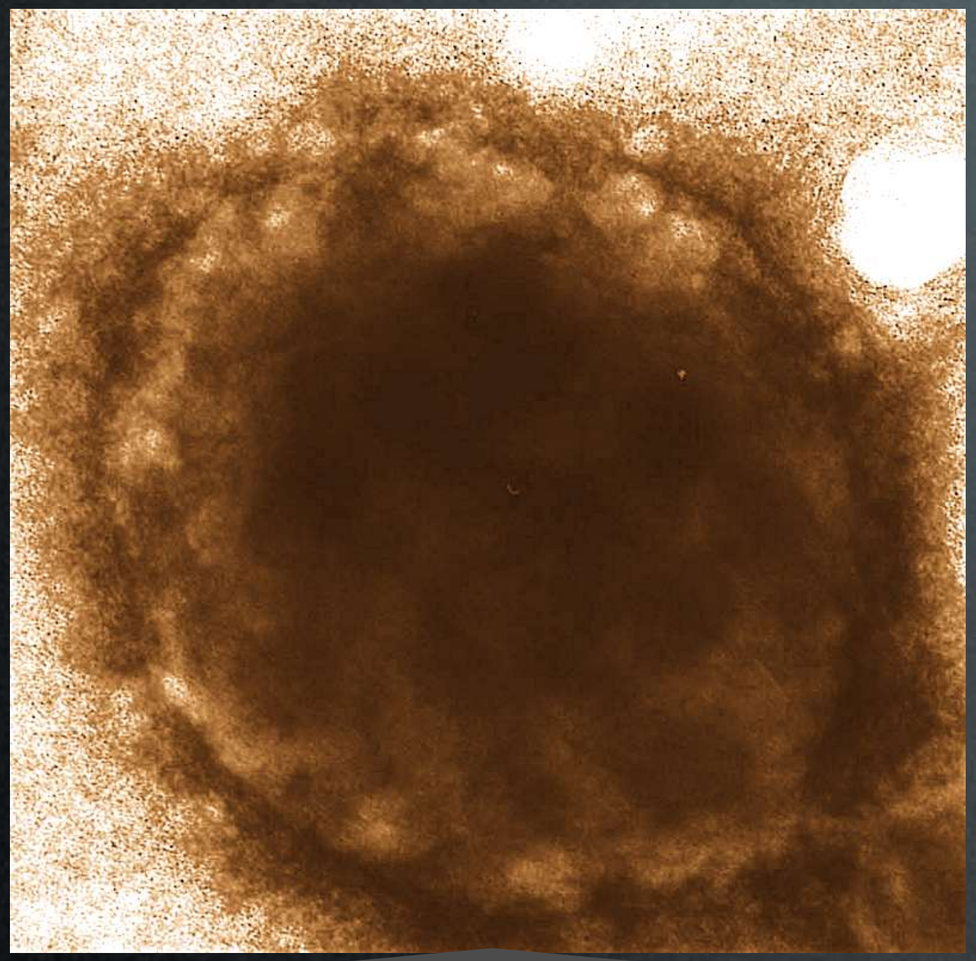
Schematic Diagram Not Intended to be Construed as the In Vivo Mechanism



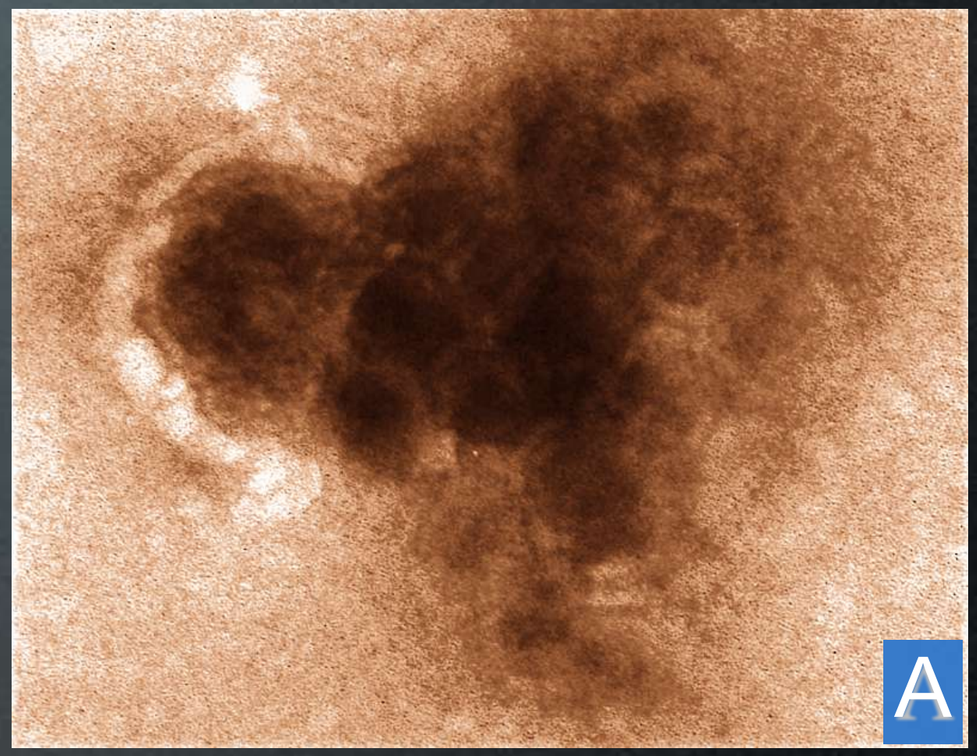
A single nanoviricide micelle may be capable of completely engulfing a Virus Particle. Nanoviricide micelles self-assemble from multiple chains. A single chain micelle shown for convenience. Illustration not to scale.

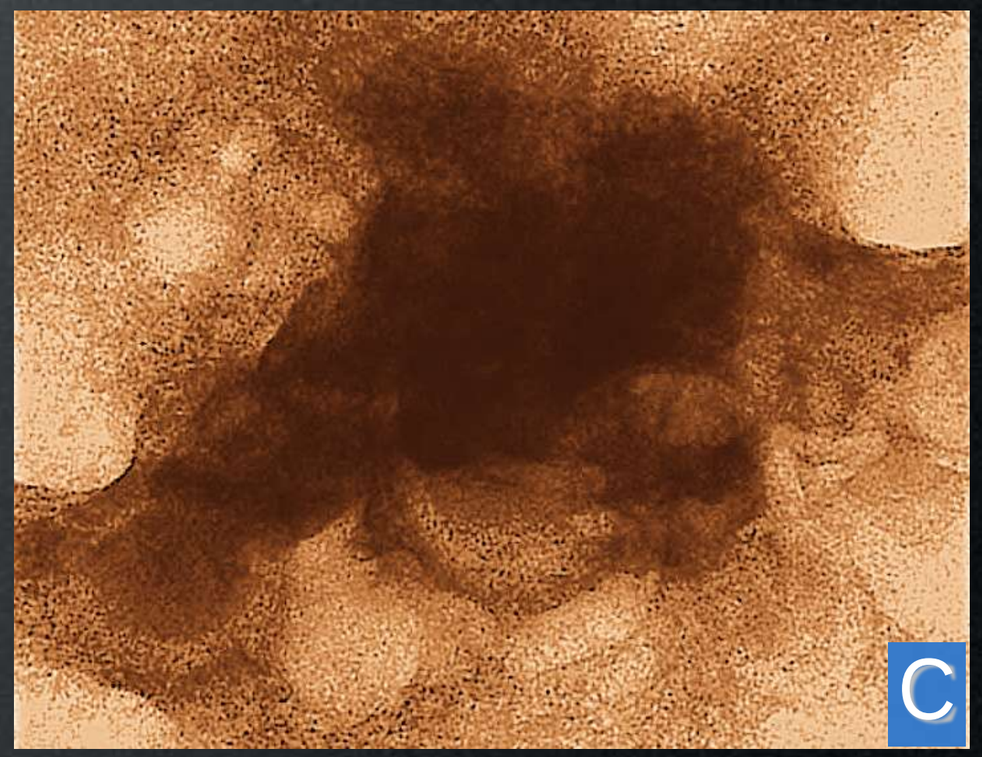
Nanoviricides Dismantling MCMV Virus Particle

Control	Treated



MCMV Virus Particle
Containing Multiple Capsids





Virus Dismantled;
Capsids Spilling Out
A: intermediate state;
C: total dismantling

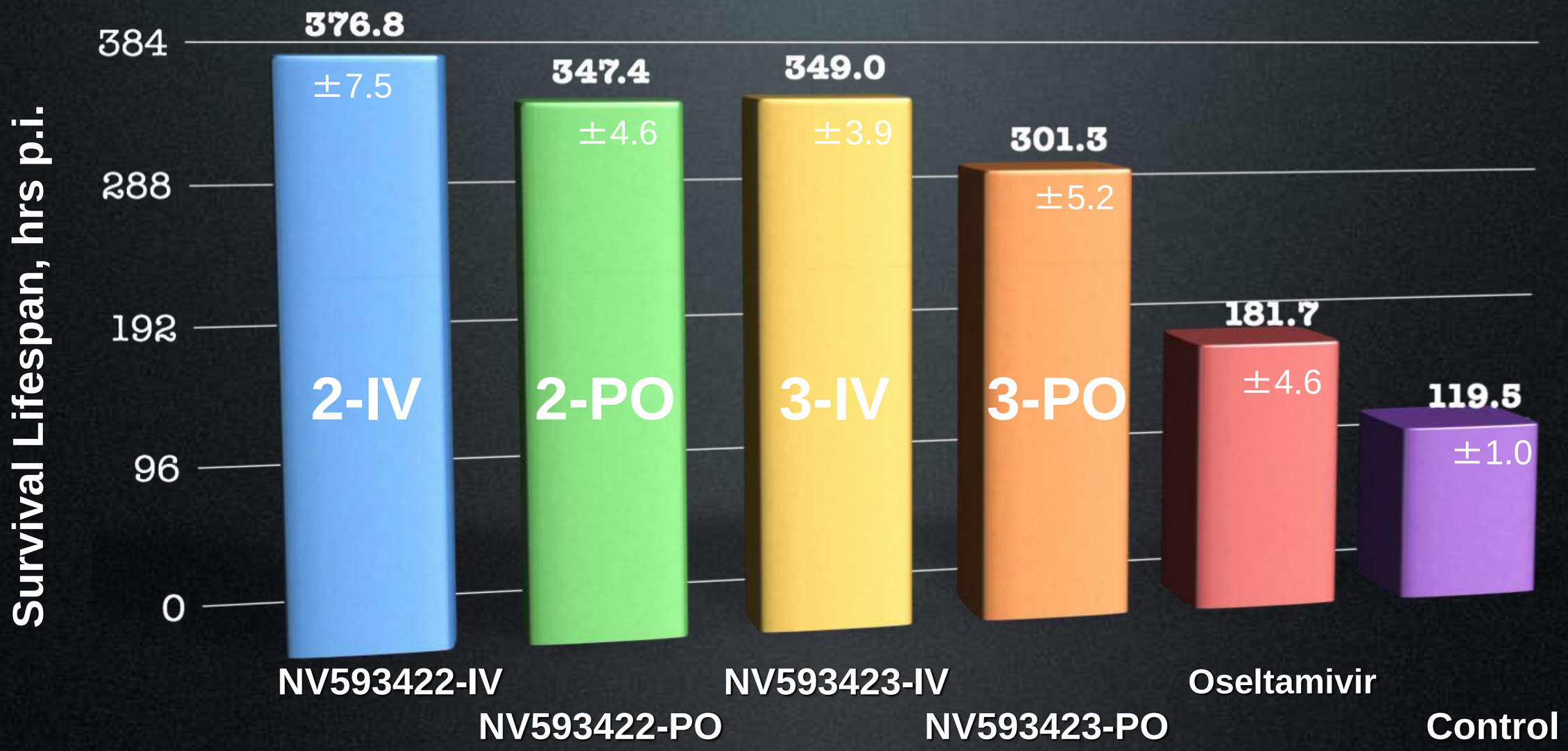
FluCide™ Against All Influenzas
Successful Clinical Lead Development

- Very first Animal Study Resulted in a Drug Candidate almost 8X Superior to Oseltamivir in Viral Load Reduction
- 1,000X Greater Viral Load Reduction, and equally impressive superior efficacy using other parameters, compared to Oseltamivir in same highly lethal animal model achieved...
- Only 4 SAR Cycles Later
- Chemistry, Manufacturing & Controls (CMC) Studies in Progress
- cGMP Manufacturing Related Studies in Progress
- First pre-IND Meeting held with US FDA in March, 2012
- NEW: Orally Effective FluCide™ Drug Candidates Developed!

Oral vs IV FluCide Study

Oral Anti-Influenza Nanoviricides are As Effective as IV administration, and Substantially Superior to Oseltamivir in Increased Survival

in a Highly Lethal Animal Model

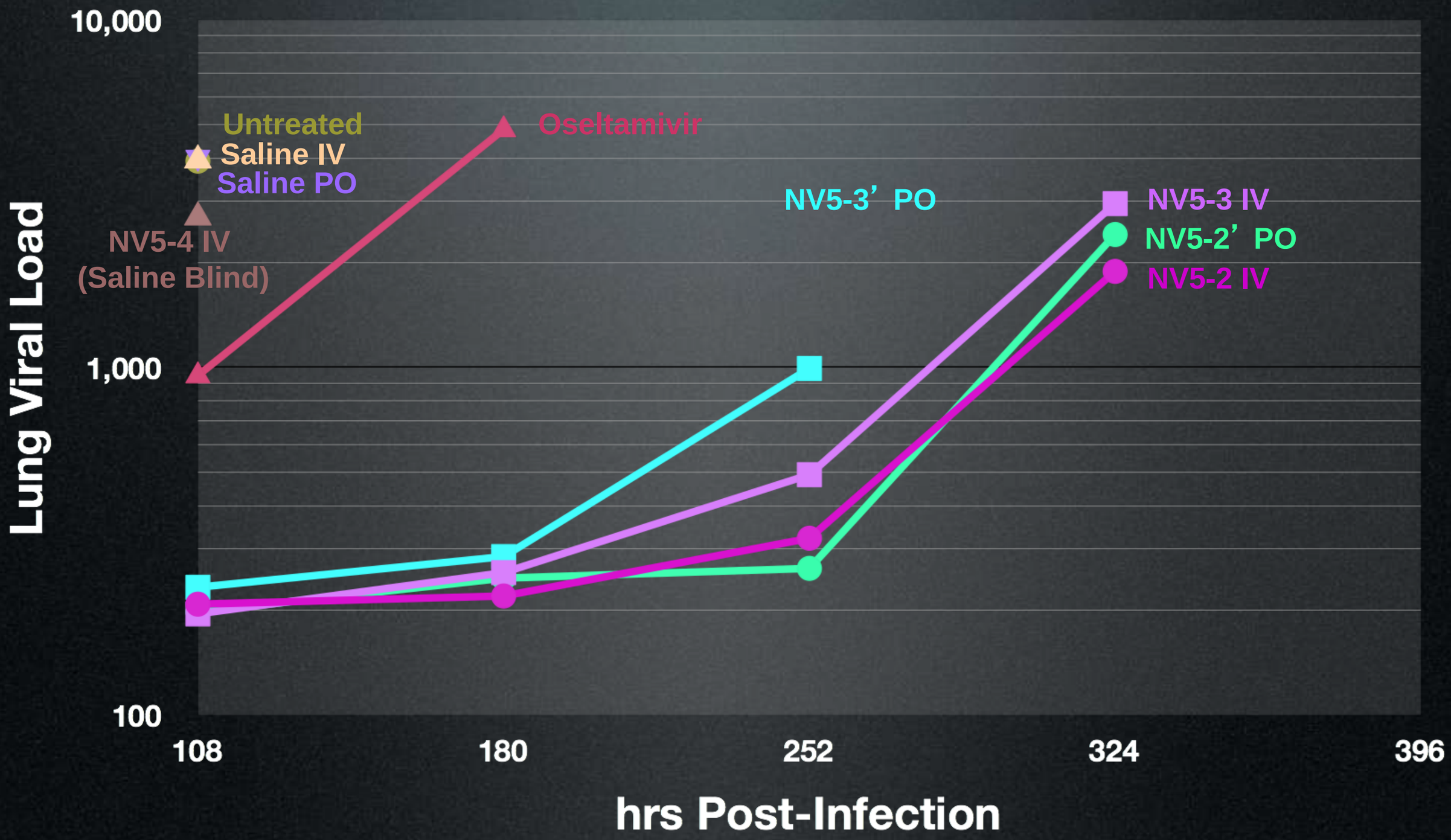


Protocol: Infection: Aerosol, 1M viral particles H1N1/A/WS/33 at t=0h, Booster infection Repeat at t=22h. Treatment start at t=24h. IV Treatment is once every 48h. Oral Treatment is 1X Daily at 3X dose of IV. Oseltamivir is 2X Daily at total 40mg/kg/d. Control is Infected untreated.

Oral Anti-Influenza Nanoviricides are As Effective as IV administration, and Substantially Superior to Oseltamivir in Decreased Lung Viral Load

in a Highly Lethal Animal Model

First Ever Oral Nanomedicine!



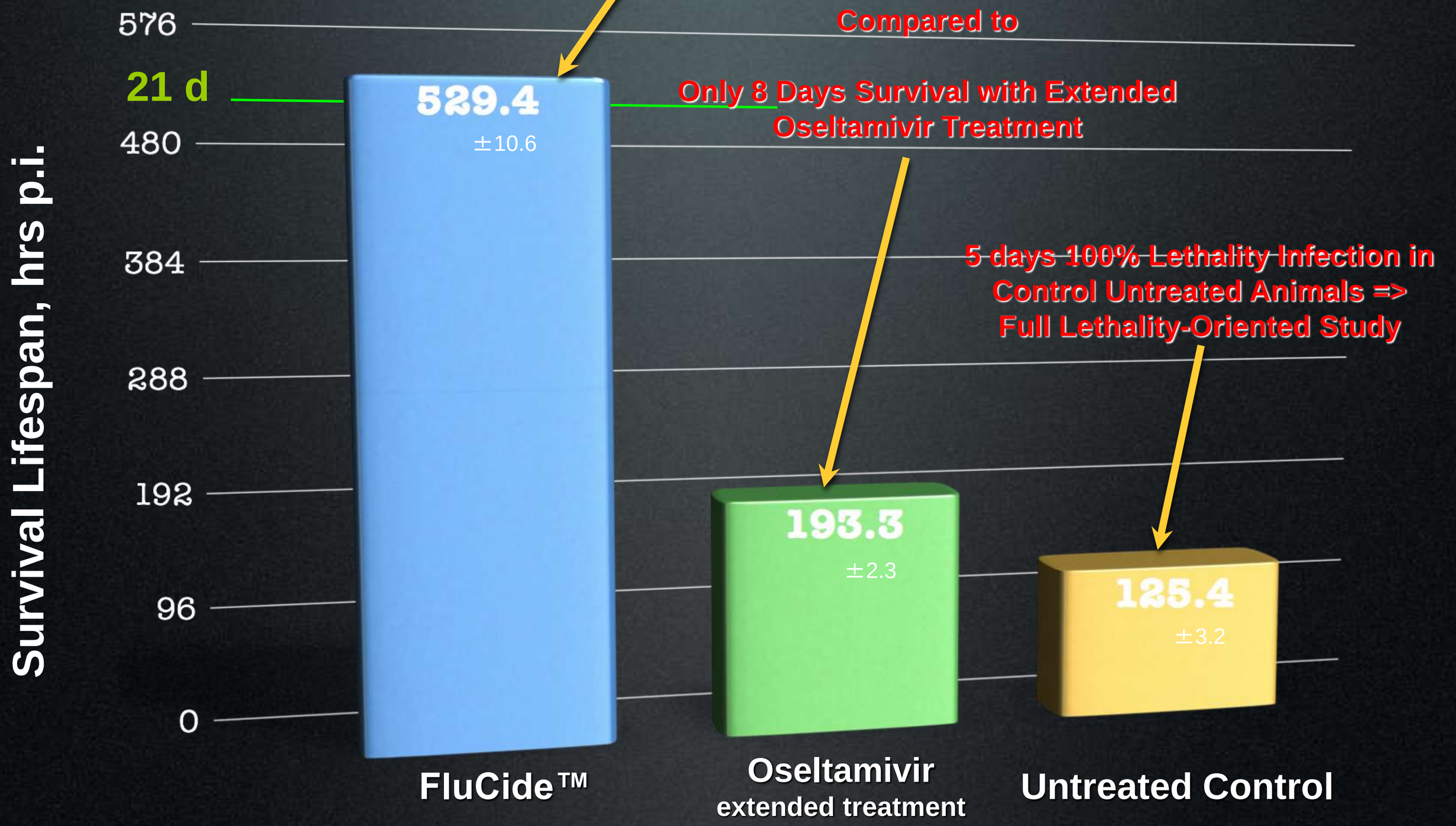
IV FluCide Study

IV Drug (Piggy-back Infusion) for Severely Ill Hospitalized Patients

FluCide™ Candidates Unquestionably Superior to Oseltamivir

Full Survival (>21d) upon FluCide Treatment in H1N1 Mice Lethality Study, 2011-01

Indicates Full Clinical Recovery Even with High Path, Severe Influenzas, is Possible



FluCide Probably The Most Effective Anti-Influenza Drug At Present

FluCide™ against Influenza

>1,000-fold Lung Viral Load Reduction in NanoViricide Treated Animals

Only <2-fold reduction with Oseltamivir in this Lethal Influenza Infection Study

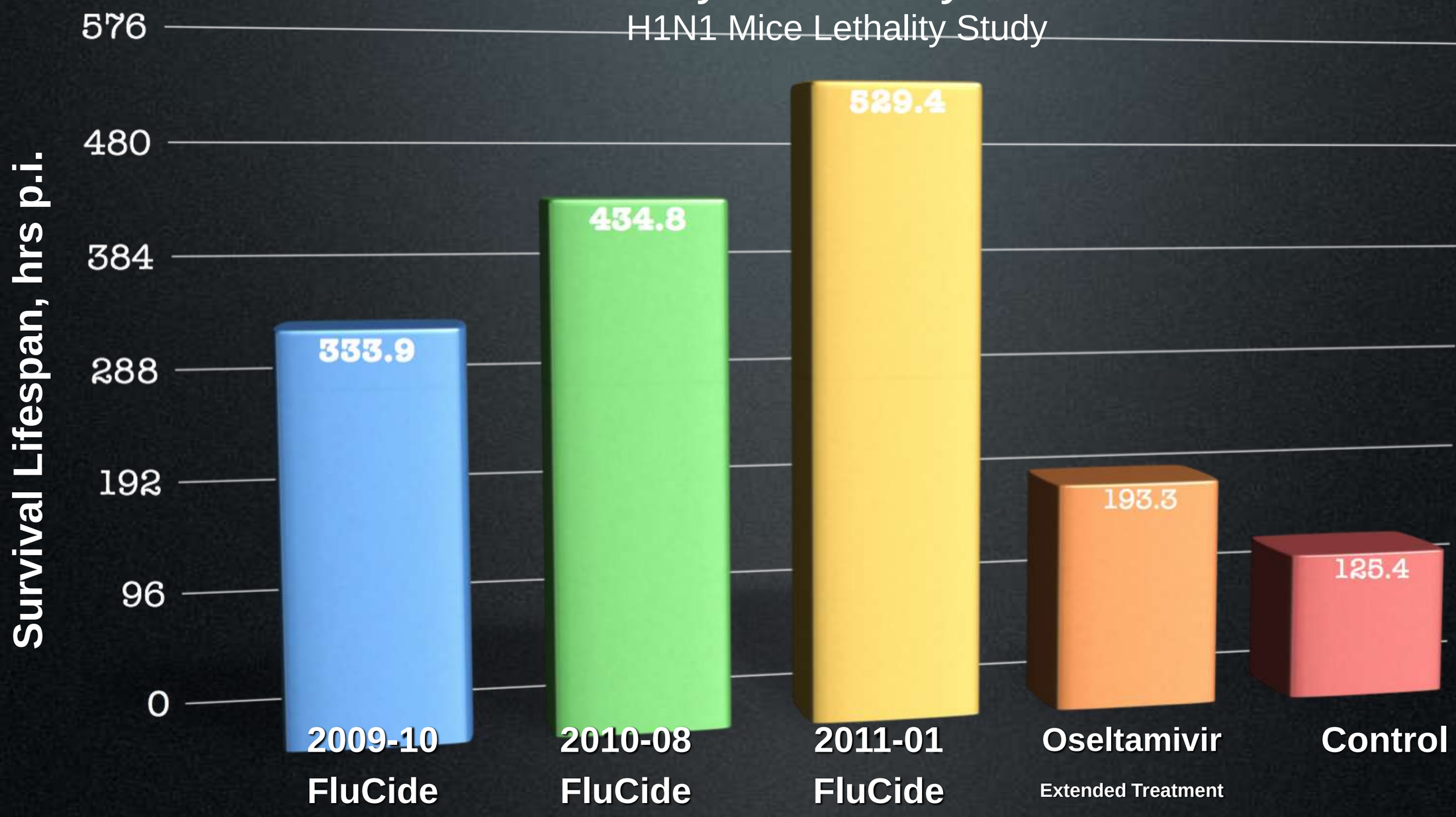
4.5 Days (108h) Post-Infection

SAR Optimization

Anti-Influenza Nanoviricide SAR Improvements

Full Survival (>21d) upon Treatment Achieved in Only 4 SAR Cycles

H1N1 Mice Lethality Study



FluCide™ is Unquestionably Superior to Tamiflu®

FluCide Could Be The Most Effective Anti-Influenza Drug At Present

We Believe We Can Achieve Similar Substantial SAR Improvements Against Other Viral Diseases As Well

Adenoviral Epidemic Kerato-Conjunctivitis

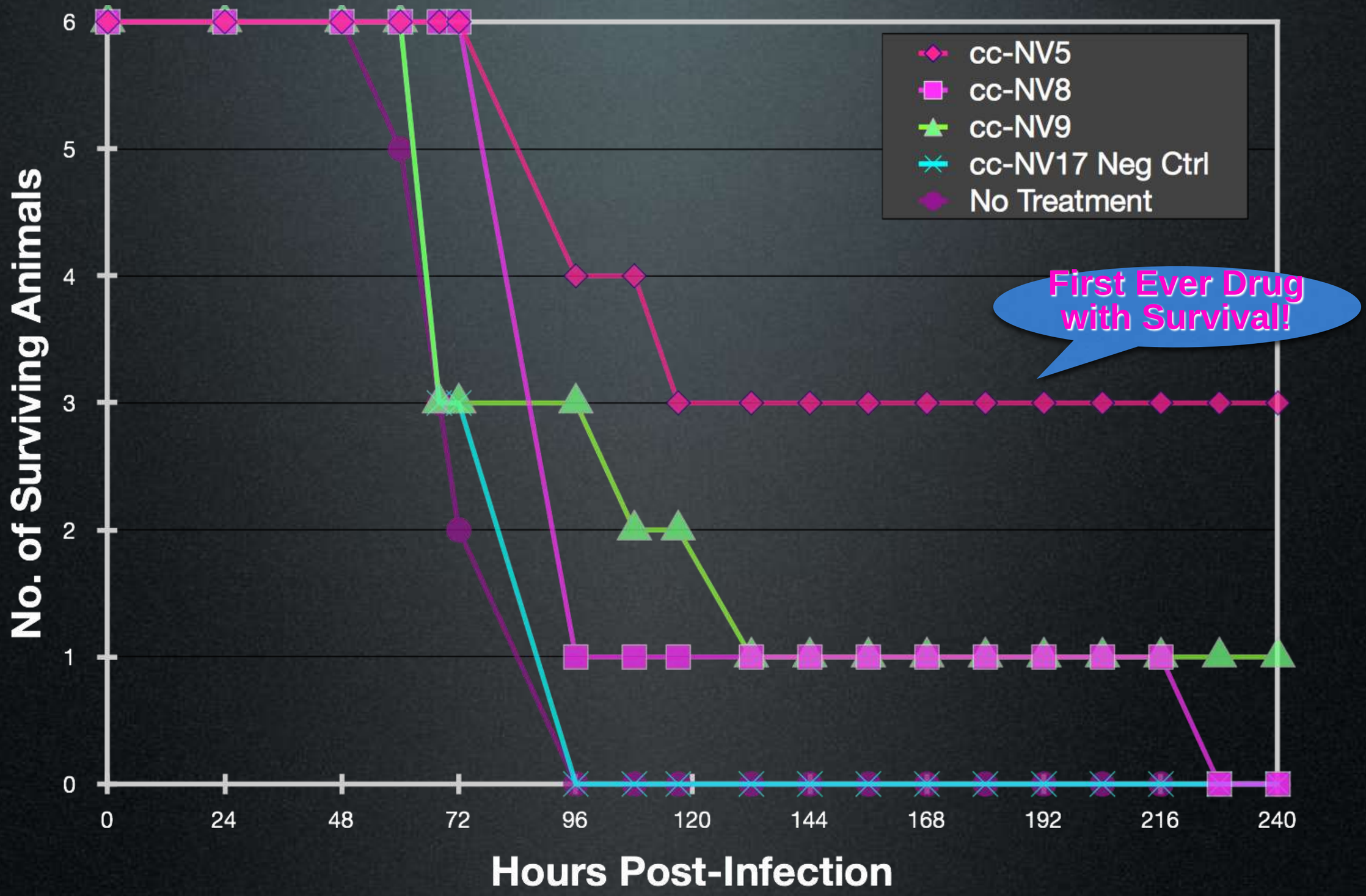
Simple EKC nanoviricide eye drops
lead to
quick and complete clinical resolution in
well known rabbit model

Epidemic Kerato-Conjuntivitis (EKC) - Severe Pink Eye Disease
Adenovirus 5 Animal Studies

White Conjunctiva Rapidly Restored by Nanoviricide Drug Candidate Treatment

	Negative Control	Nanoviricide "R"
At 2.5 Days		
At 5.5 Days		

Dengue Virus ADE Model: Preliminary Survival Study
Antibody-Challenged AG129 Ifn-/- Mice, D2S10 Infection



Prof. Eva Harris Lab Results

Different HSV-1 Viruses Completely Inhibited in Several Different Cell Culture Studies

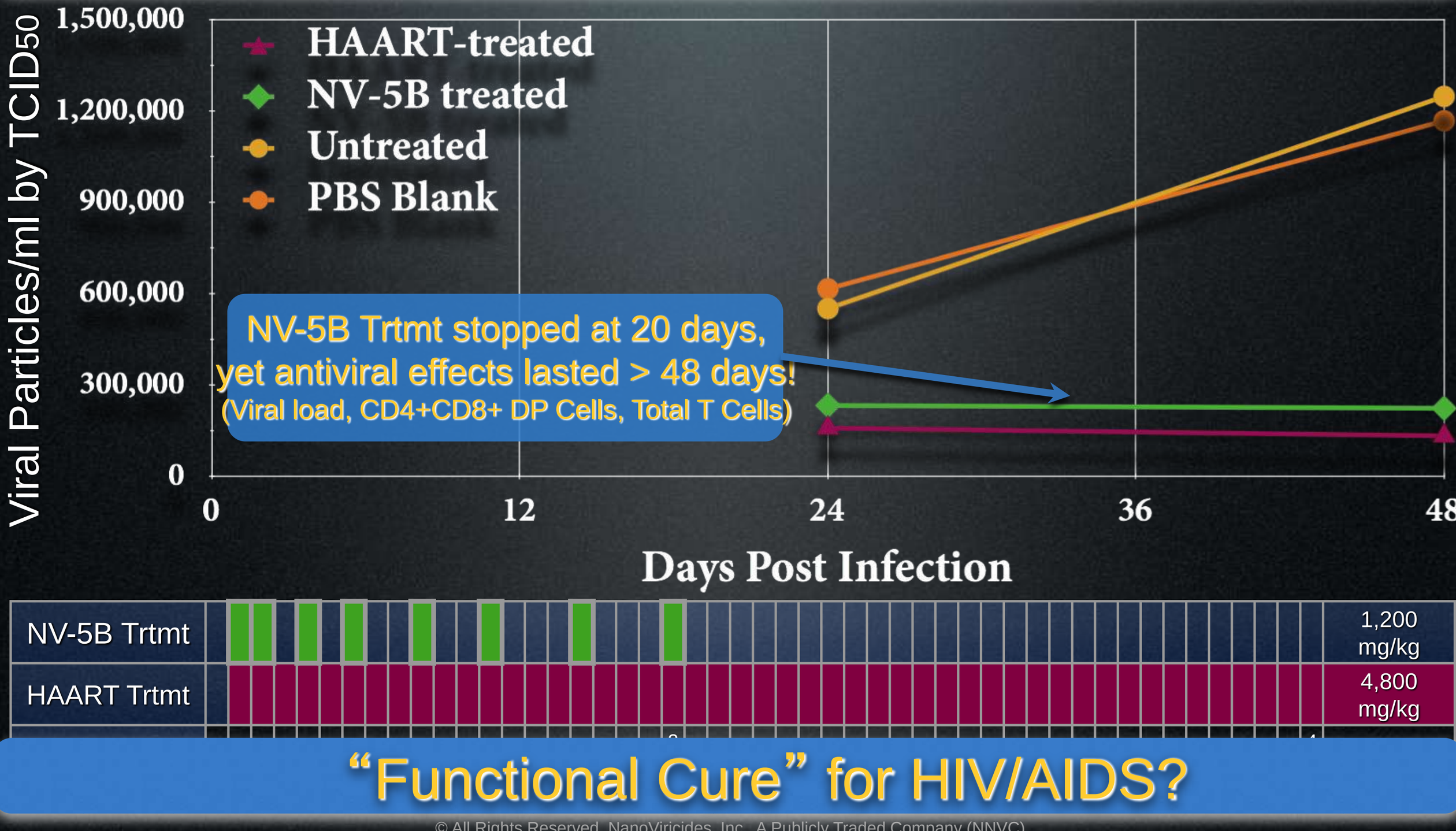
- > 99.99% Reduction of HSV-1 McKrae Strain
- McKrae Strain important in Herpis Keratitis (External Eye)
- Almost Complete Inhibition of HSV-1 H129 Strain
- H129: Relevant for “Cold Sores”, a Highly Pathogenic Strain
- Skin Cream for HSV-1 oral, genital outbreaks
- Eye Drops against HSV Keratitis (Eye Disease)
- Can we create a single Eye Drop nanoviricide drug that works against Herpes Keratitis as well as Adenoviral Conjunctivitis (EKC) ?
  - Cover ~99% eye viral infections with a single antiviral ?

Nanoviricide Treatment was >12X More effective than the HAART standard therapy in a SCID-hu Thy/Liv Mouse Model - Study#1

- Only 300mg/kg total HIVCide produced effect equal to or better than 4,100mg/kg HAART drugs load
- Viral load Reduction on nanoviricides treatment was equal to or better than that on HAART treated mice
- **CD4+/CD8+ (human) T cells increased equal to or better than that on HAART treated mice**
- Virus Particle count inside human T cells decreased to much smaller levels on nanoviricides compared to HAART treatment

Potential "Functional Cure" for HIV/AIDS?

Sustained Reduction in HIV-1 Viral Load Even After Treatment Stopped in the SCID-hu Thy/Liv Mouse Model in Study #2



"Functional Cure" for HIV/AIDS?

NanoViricides:
Beyond Immunotherapeutics!

- Immunoglobulins, Antibodies : Standard Antiviral Treatments
- NanoViricides are Designed to Neutralize the Virus Particle Completely and Dismantle it
- Nanoviricides Do Not Depend Upon the Immune System to encapsulate and dismantle the virus, as antibodies do
- Nanoviricides Strategy: Seek, Attach, Encircle and Destroy
  - Classic War Strategy!

Routes of Administration

- Injectables ✔
- IV Infusion ✔
- Eye Drops ✔
- Skin Cream ✔
- Nasal Sprays ✔
- Bronchial Sprays ✔
- In Situ Depos/Gels ✔
- Oral ✔

Future Milestones/ Objectives

- pre-IND Meeting with FDA - March 2012 - DONE
- Executable Product Development Plan for Influenza
- Chemistry, Manufacturing & Controls Studies (ongoing)
- Lab Production to ~200g scale (ongoing)
- Assays Development
- Safety/Toxicology Studies
- Dose-Response Studies in Animal Models
- cGMP Manufacturing Facility -> Design Phase
- Clinical Scale Production Scale-up (~1 Kg scale)
- Translation of Production to cGMP, Validation, etc.
- IND Filing for Influenza
- Continue SAR on HIVCide, EKCCide, HerpeCide, and DengueCide

NanoViricides: Strong Product PipeLine

Disease	Drug Candidates	Efficacy - Cell Cultures Safety - Animals	Efficacy - Animals	IND-Enabling Studies	Phase I, II, III, NDA
Primary (Commercially Important) Programs					
Influenza, Bird Flu*	FluCide™ Clinical Candidate				
External Eye Viral Diseases	EKC-Cide™ SAR				
HIV/AIDS	HivCide™ SAR Nearing Completion				
Herpes Oral and Genital	Identified				
Dengue	Identified				
Neglected Tropical Diseases Programs - Social Responsibility					
Rabies	RabiCide™ SAR				
Bio-Defense Programs					
Ebola/Marburg	TBD				
ADIF™ Technology**	ADIF-Base™-I				

* Includes all highly pathogenic avian influenza (HPAI) viruses capable of causing severe human epidemics, such as H5N1, H7N, H9N.

** ADIF: “Accurate-Drug-In-Field” is NanoViricides, Inc. unique technology. The ADIF-Base nanomicelles can be stockpiled. When a novel infection (natural or bioterrorism) occurs, a nanoviricide against that virus can be quickly created in the field and used to stop an epidemic from spreading.

We plan on obtaining non-equity funding for our NTD and Bio-defense programs. The Company believes that these programs benefit our commercially important drug development programs, and vice versa.

The Regulatory Process is complex. A Tox Package needs to be developed for each drug candidate. Then an IND is submitted to the FDA. Human Clinical Trials, Phase I, II, and III, are conducted upon IND approval. An NDA is submitted after that. A drug can be marketed only after FDA approval. The Company cannot reliably predict timelines for these events, nor can it assure that it will be successful in developing any drugs.

Large Market Sizes: Strong ROI Opportunity

Disease/Virus	$ Billions, 2013 estimates (1)	
HIV/AIDS	$ 21 B .	HIV-Cide™ Potentially a "Functional Cure"
Influenzas	$ 7 B .	Resistance to Current Drugs widespread. FluCide™ as a Pan-Influenza Drug
Eye Drops Antiviral	$ 1~5 B (2) .	No current non-toxic drugs
Herpes "Cold Sores" Skin Cream & Gel	$ 2 B .	Current therapies have limited effectiveness
Hepatitis C	$ 6 B .	Current therapies not very effective
Dengue, Rabies, other NTD's	$ 1 B (2) . combined	Rapidly increasing developing world markets not properly accounted for
Ebola/Marburg/VHF	$ 1 B . combined	Biodefense; Single customer issues Government Grants & Contracts

>$20B if good prophylactic & therapeutic?

(1). Jain Pharma Biotech. March 2009. "Antiviral Therapeutics: Technologies, Companies & Markets", by Prof. K. K. Jain, MD, FRACS, FFPM. Basel, Switzerland.
(2). Estimates based on the Jain Report, and a report commissioned by the Company for more detailed analyses of these special markets. March 2009.

NanoViricides Executive Team

Anil R. Diwan, PhD
President & Chairman

Co-Inventor of Nanoviricides™ Products &
TheraCour ® Technologies
Serial Entrepreneur, 19 years leadership experience
Key Patents, Several NIH SBIR Awards

Eugene Seymour, MD MPH
CEO

Founder, Saliva Diagnostic Systems (SDS)
Took SDS Public
Med. Dir., Center for AIDS Research, Inc.,
A Public Charitable Trust

Randall Barton, PhD
CSO

Former Director of In-Vitro Cardiovascular Research at
Boehringer Ingelheim
Nevirapine (Virammune™) Development

Jayant Tatake, PhD
VP, R&D

Former Assistant Director of Pharma.Analytics at
InterPharm, Inc.
Co-Inventor of Nanoviricides™ Products &
TheraCour ® Technologies
Synthesis to Scale-up, Pharmaceutical GMP

Krishna Menon, VMD, PhD
consulting CRO

Scientist of the Year (1999) at Eli Lilly.
Alimta(tm) Inventor. AZT Pre-clinicals.
3 Blockbuster Drugs. 9 Major Drugs.
7 Patents on Pharmaceuticals.

The End